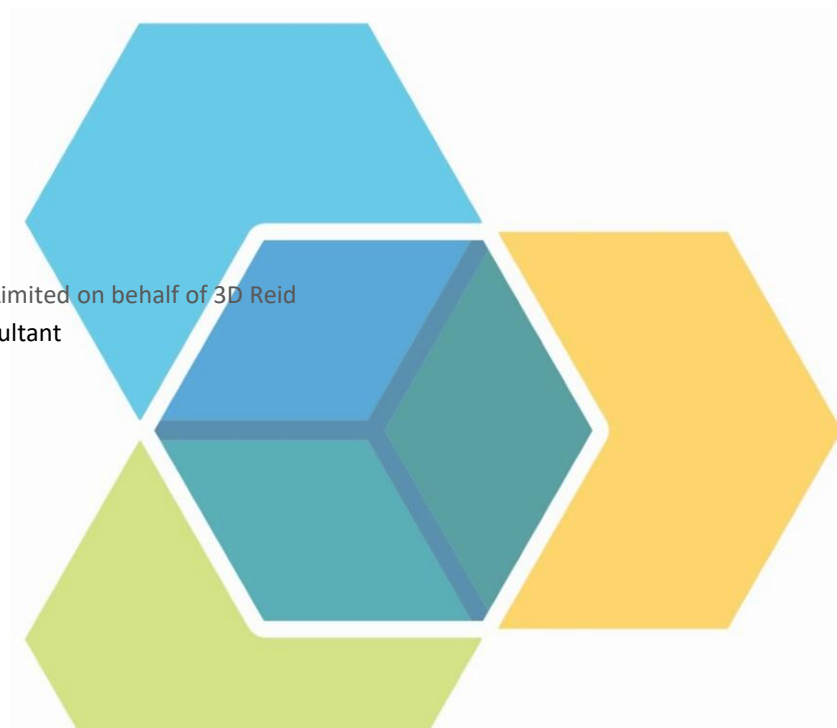




Site Condition Report– Ridgeway Data Centre Emergency Back Up Generation Facility

Project number: 2324033 – SCR V3
Prepared for: Amazon Data Services UK Limited on behalf of 3D Reid
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Date of issue: 19/05/2026
Version number: 3.0





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Executive Summary

Introduction

This assessment comprises a Site Condition Report (SCR) to support an Environmental Permit application for a proposed emergency back-up power generation facility at a data Centre development, located at Ridgeway Trading Estate, Iver, Buckinghamshire (TQ.03489 80455) (hereinafter the 'Site'). The purpose of this report is, to produce a Site Condition Report (SCR) that is aligned to EA's H5 Guidance fulfils the obligations of the Industrial Emissions Directive.

Surrounding Area	<table> <tr> <td data-bbox="454 569 560 625">North</td><td data-bbox="560 569 1377 625">A farm and a residential area are located north of Site with a proximity of approximately 140m and 350m of the installation boundary respectively.</td></tr> <tr> <td data-bbox="454 625 560 682">East</td><td data-bbox="560 625 1377 682">Commercial and residential premises lie east of installation, ranging from approximately 20-100m of the Site boundary..</td></tr> <tr> <td data-bbox="454 682 560 739">South</td><td data-bbox="560 682 1377 739">The wider Site is neighboured by the Grand Union Canal. A dense zone of residential receptors is located beyond the Canal.</td></tr> <tr> <td data-bbox="454 739 560 793">West</td><td data-bbox="560 739 1377 793">A large farmland plot is immediate to the western Site boundary.</td></tr> </table>	North	A farm and a residential area are located north of Site with a proximity of approximately 140m and 350m of the installation boundary respectively.	East	Commercial and residential premises lie east of installation, ranging from approximately 20-100m of the Site boundary..	South	The wider Site is neighboured by the Grand Union Canal. A dense zone of residential receptors is located beyond the Canal.	West	A large farmland plot is immediate to the western Site boundary.
North	A farm and a residential area are located north of Site with a proximity of approximately 140m and 350m of the installation boundary respectively.								
East	Commercial and residential premises lie east of installation, ranging from approximately 20-100m of the Site boundary..								
South	The wider Site is neighboured by the Grand Union Canal. A dense zone of residential receptors is located beyond the Canal.								
West	A large farmland plot is immediate to the western Site boundary.								
Summary of sensitive land uses	The Site and surrounding areas are considered to be of moderate sensitivity, based on the following factors: • The Site is situated in an area designated with both unproductive, and medium-high groundwater vulnerability. Therefore, any sources of pollution to ground may potentially impact the medium-high vulnerability groundwater and could use the permeable principal aquifer as a pathway to the base flow of the local water courses. However, the relatively impermeable strata of London Clay and Lambeth Group clays separates and impedes the groundwater flow between the shallow and deep aquifers. • Within 2km of Site, there are number of locally important ecological sites associated with the Grand Union Canal • The South West London Waterbodies are classified as a Ramsar Site and Special Protection Area (SPA) located approximately 4.7km to the south.								
Summary of the History of the Site and Surrounding Area	The installation footprint has housed factories and warehouses for the last 40 years. Site was previously used as a tile works, glass factory, cable works, cosmetic factory and warehouses with numerous above ground storage tanks and underground storage tanks (ASTs, USTs). Previous investigations indicate the previous presence of soil and groundwater contamination (hydrocarbons) associated with former site use(s) specifically associated with the ASTs and USTs. Remediation works have been undertaken onsite including the decommissioning and removal of USTs and ASTs as well as interceptor pits, replacing of old pipework and drainage systems and treatment of groundwater. It is understood that the EA was consulted regarding the remediation activities and found the scope of the remediation work to be satisfactory at that time. This was confirmed by further investigation made by a third-party in 2021. The ground investigation indicated that the installation and wider development site was not significantly contaminated and there are unlikely to be constraints to future redevelopment. Only isolated residual soil hydrocarbon contamination was identified which indicates that the previous remediation works were undertaken to a sufficient standard.								



Conceptual Model (CSM) Conclusion	Site &	On-installation activities will inevitably lead the presence of pollution sources that could, if ineffectively managed, impact ground, groundwater, controlled waters, and other potential pollution pathways and environmental receptors. The most significant risk on the proposed Site is associated with the filling/overfilling during delivery of diesel/Hydrogenated Vegetable Oil (HVO); as well as spills and leaks from, or catastrophic failure of, the bulk top up AST or ESG belly tanks used for the storage of diesel/HVO. A lesser, but relevant, risk to pathways and receptors is also posed by vehicle spills in combination with failures in the drainage and interceptor system. The future risks of pollution will be mitigated appropriately by the planned active controls and preventive measures which include but are not limited to: • The fuel bulk top up ASTs will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment. Carbon steel oil storage tanks. Specification); in accordance with this design standard each tank will be provided with secondary containment (110%). • Fuel delivery tankers will be required to park in a dedicated tanker refuelling area. • Tertiary containment will be provided by the contoured hardstanding of the area where the ESG, the receiver station and the fuel road tanker off-loading area will be located and the roadways kerbed. • The ESG belly tanks will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment). Carbon steel oil storage tanks. Specification); in accordance with this design standard each tank will be provided with secondary containment (110%). • The integrity of the fuel tanks and secondary containment will be subject to daily visual inspection by site personnel as part of daily operations. Any defects or weaknesses spotted in a tank or containment measures will be repaired as soon as practicable. • Additional leak/spill protection measures will include tank level gauges, level alarms, pressure delivery over-fill prevention valves and leak detection alarms connected to the building management system (BMS), fuel pipelines will have a pipe-in-pipe arrangement to minimise the risk of leaks. • Robust high-quality hardstanding in place in all external areas, hardstanding will be subject to regular visual inspection and appropriate maintenance. • Both foul and surface water arising from the installation will pass through oil interceptors. Oil interceptors will be subject to routine visual servicing by specialist third parties. • The interceptors will be fitted with an automatic closure device, this closure device will be activated on detection of oil in the interceptor. As outlined in the Conceptual Site Model described in Section 6, the risk posed to environmental receptors from all pollution sources identified on the proposed Site is considered to be low.
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1 Introduction

1.1 Purpose

This assessment comprises a Site Condition Report (SCR) to support an Environmental Permit application for a proposed emergency back-up power generation facility at a data centre development located at the Ridgeway Trading Estate, Iver, Buckinghamshire centred on Grid Reference TQ 03489 80455 (hereinafter the 'Site'). The purpose of this report is, to produce a Site Condition Report (SCR) that is aligned to EA's H5 Guidance fulfils the obligations of the Industrial Emissions Directive.

1.2 Scope of Works

This Report includes the following:

- Assessment of the risk of soil and groundwater impacts at the Site, specifically in relation to current and past operational activities and related practices, by review of:
 - Publicly accessible information relating to the environmental setting and history of the Site and surrounding area,
 - Review of relevant documentation provided by the Site.
- The preparation of a preliminary Conceptual Site Model (CSM) based upon the desk-based assessment.

1.2.1 Desk Study

The desk study comprised a review of publicly available information to establish:

- Site history.
- Surrounding land uses, nearby sensitive land uses and sites of ecological or scientific interest, using the Environment Agency (EA) Magic map as well as other publicly available online mapping.
- Information on geology and hydrogeology (including mining records and water abstractions), obtained from sources including:
 - the British Geological Survey (BGS),
 - the UK.Gov Magic Map,
 - Google Earth,
 - Third-party Due Diligence Report Extracts – Appendix 6 (Phase I desktop reports and Phase II).
- Current and historic records of environmental permits, landfill and other waste records, pollution incidents, discharge consents, environmental prosecutions, and current and former petrol filling stations, using information from the above sources.

1.2.2 Proposed Development

This EP application is for an emergency back-up power generation facility located at a proposed Data Centre. The EPR boundary covers the back-up generation plant and fuel storage only – not the wider data centre operations. However, a description of the wider development is provided here for context. The data centre will comprise a two storey 30,500m² main building housing the data halls plus admin block, separate medium voltage building, high voltage substation, security gate house together with external operational areas including, emergency generators and associated fuel storage infrastructure, cooling systems, water treatment and a sprinkler system. The approximately 7.2 ha overall site is currently a distribution centre which will be fully demolished before construction and commissioning of the data centre facility.



The data centre site is subject to a planning application submitted to Slough Borough Council. The development will initially involve the demolition of the existing buildings that are in place within the site footprint. See Figure 1 below outlining the existing overall site layout.

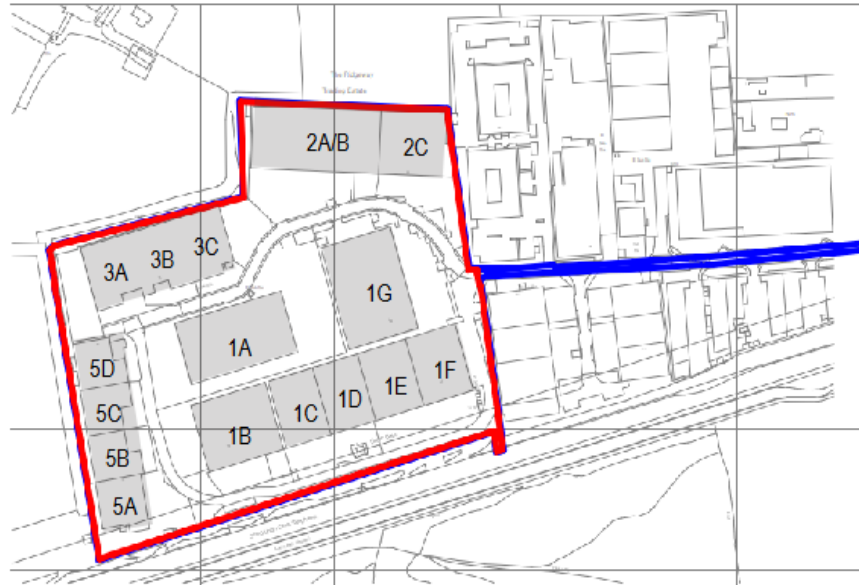


Figure 1 - Existing Site Layout

The construction phase will include the development of associated plant, new vehicular access from Thorney Lane South, parking, a sustainable drainage system, and an external yard in which the main 27-HVO/diesel fired emergency standby generators (ESGs) and associated fuel storage will be located. The main ESG container units at the data centre will be located within the generator compound. See Figure 2 below) for the layout map of the planned development.

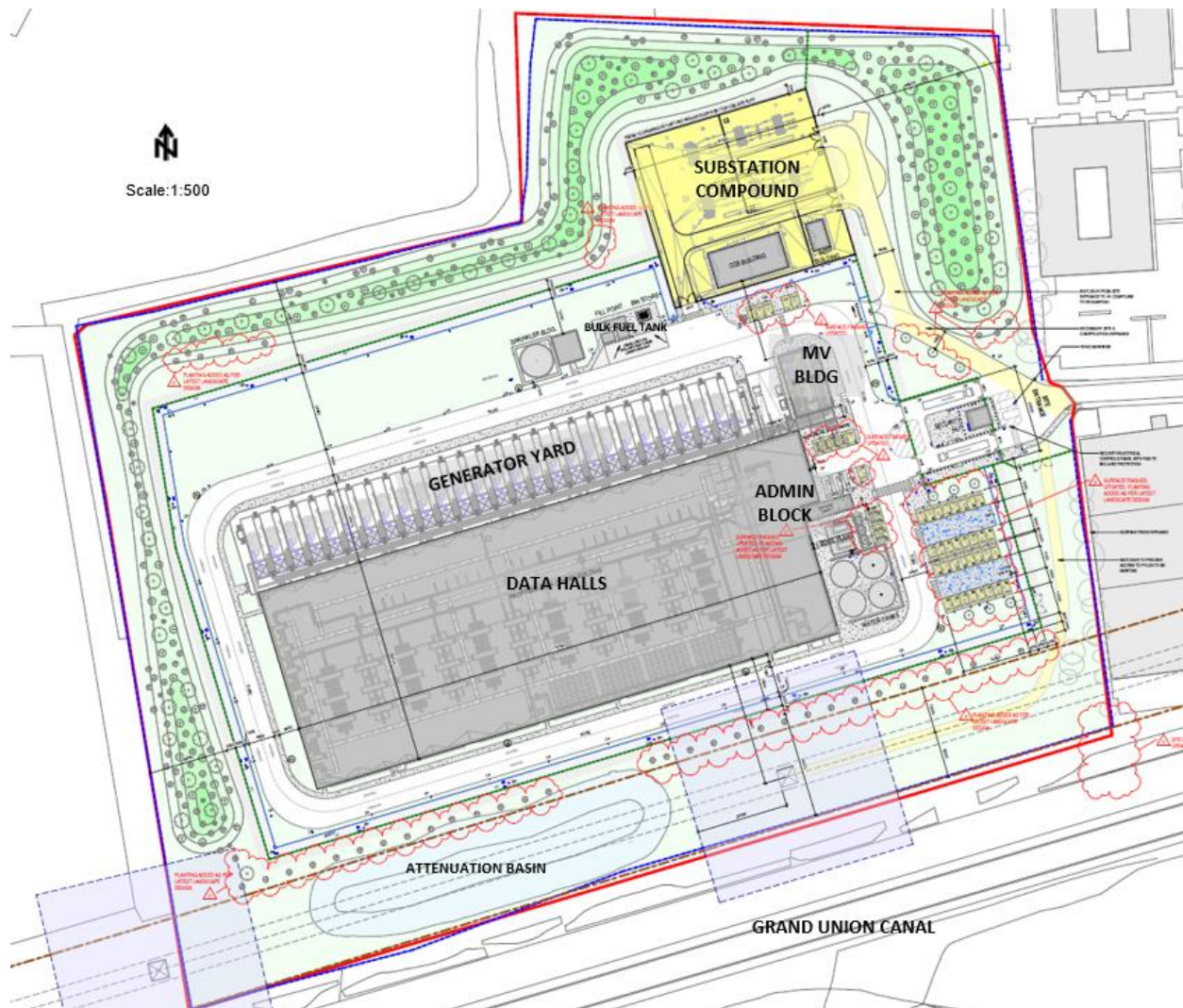


Figure 2 – Proposed Site Layout

The regulated “activities” that are proposed are defined in the EPR in:

Section 1.1 Part A(1)(a) burning any fuel in an appliance with a rated thermal input of 50 or more megawatts.

As the purpose of the on-site fuel storage is to serve the generators and the Scheduled Activity above, this storage of fuel therefore constitutes a directly associated activity to be covered in this Permit Application.

In the event of a worst-case blackout scenario of the local transmission system, potentially all the ESG in the data centre will be operated to deliver the required IT electrical load. Therefore, the operation (under emergency) of individual ESGs is linked to the ‘availability’ of other engines and all ESGs in the data centre are considered to be technically connected.

As the incorrect storage of a raw material/fuel could cause off-site releases of these substances the storage of fuel oil at the data centre is considered to be a directly associated activity (DAA) of the ‘combustion’ qualifying activity.



Therefore, the regulated installation boundary to which this SCR applies is shown below (Figure 3).

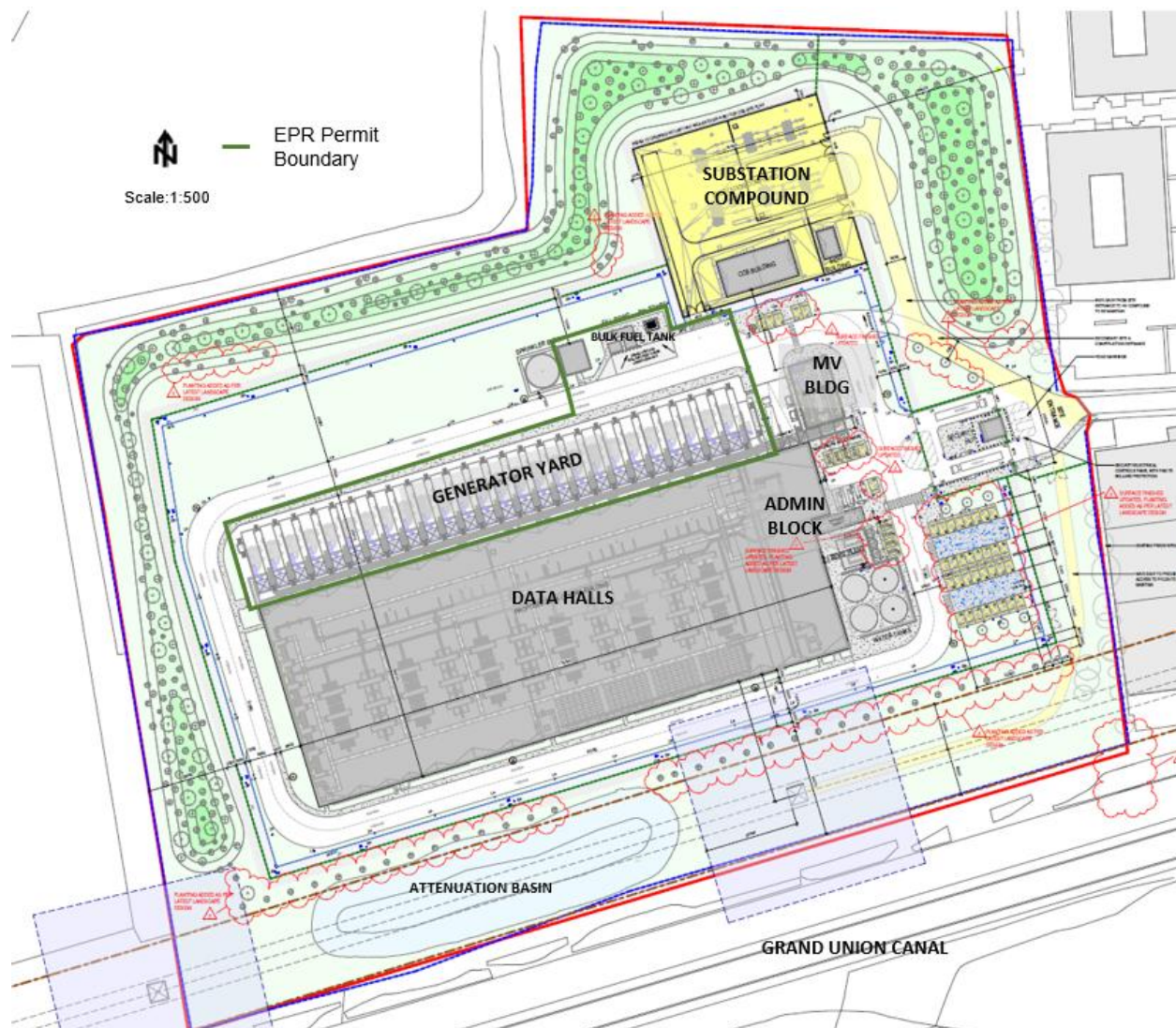


Figure 3 - EPR Installation Boundary

1.2.3 Reporting

This assessment resulted in the completion of the following SCR. The Report includes a list of potential sources of contamination, identification of potential receptors of any such contamination and, based on these findings, an assessment of the contaminated land risk associated with the Site. The purpose is to establish the site condition baseline prior to operation of the permitted installation.

1.3 Significant Assumptions

This report presents EHS' observations, findings, and conclusions as they existed on the date that this report was issued. This report is subject to modification if EHS becomes aware of additional information after the date of this report that is material to its findings and conclusions.



The reliability of information provided by others to EHS cannot be guaranteed to be accurate or complete. Performance of this Report is intended to reduce, but not eliminate, uncertainty of environmental conditions associated with the subject Site; therefore, the findings and conclusions made in this report should not be construed to warrant or guarantee the subject Site, or express or imply, including without limitation, warranties as to its marketability for a particular use. EHS found no reason to question the validity of information received unless explicitly noted elsewhere in this report.

1.4 User Reliance

This report was prepared for AWS. Reliance on the Report by any other third party is subject to requesting and fully executing a reliance letter between EHS and the third party that acknowledges the EHS Standard Terms and Conditions with the Client, to the same extent as if they were the Client thereunder.

EHS has been provided with information from third parties for information purposes only and without representation or warranty, express or implied as to its accuracy or completeness and without any liability on such third parties part to revise or update the information. Where reliance has been provided by third parties to potential purchasers this is noted in our report.

2 Site Description

2.1 Site Location

The permitted installation (Figure 3) is a part of a wider Site that comprises a 7.2ha plot in Iver approximately 500m west of the M25 motorway. The entire site is located within Ridgeway Trading Estate and as such the immediate surrounding area is predominately industrial and commercial with the Grand Union Canal lies 20m from the Site's South boundary and residential properties immediately to the east.

Direction	Land use
North	The installation is bound to the north by a high voltage substation that will serve the main data centre development which is itself bordered by farm buildings approximately 160m of the installation boundary with a residential area beyond.
East	Commercial and residential premises lie east of installation, ranging from approximately 20-100m of the installation boundary (Olympia House and DX House).
South	The installation is bound to the south by the main data centre development are which is itself bordered by the Grand Union Canal and open ground beyond
West	A large farmland plot is immediate to the western Site boundary.

The overall Site location is shown in Figure 4.

When entering the Site from east off Ridgeway Road, the southeast section of the site will be a dedicated car parking area. West from the car park, the main data centre building will be based. The permitted installation is located to the north of this comprising 27 Emergency Stand-by Generators (ESGs). Adjacent to the west of the ESGs, there will be a fuel unloading bay, bulk diesel storage tank and fuel polishing facility. HV compound and an office building are located in the northeast part of the Site and are outside of the EPR boundary.



Figure 4 - Site Location

2.2 Site Operations

The proposed installation is a critical part of the data centre operations. The wider data centre operations involve the hosting of highly reliable servers and the associated data storage and processing. To achieve high reliability, the development needs to account for potential brownouts or blackouts in the local electricity transmission network, when there are fluctuations or a complete loss of electrical power from the network and thus the ESGs are crucial for Site operability.

The operator is applying for an environment permit for the proposed ESG's and associated fuel storage in accordance with guidelines set forth in the Industrial Emissions Directive (IED) and Section 1.1 A(1)(a) of the EPR, this authorisation is based on the classification of the plant as a combustion activity with an aggregated input capacity exceeding 50MWth.

3 Review of Publicly Accessible Information

3.1 Environmental Setting

The environmental setting of the Site can influence the susceptibility to, and relative magnitude of, environmental impacts and liabilities associated with on and off-Site sources of ground and groundwater contamination. The following section presents a summary of environmental reviews conducted on publicly available records.

3.1.1 Geology and Hydrogeology

British Geological Survey (BGS) geological mapping, EA Magic Maps, and as according to third-party Due Diligence indicate the following geological progression:

Geology	Geology Description	Aquifer Status	Aquifer Description
Superficial:		Superficial:	
- Langley Silt Member	- Ranges from silt to clay, typically displaying a yellow-brown colouration, and	- Principal	- Saturated permeable rocks or sediments that store and transmit significant quantities of water.



characterised by substantial bedding.		-	
- Lynch Hill Gravel Member	- Sand and Gravel, often found alongside layers of silt, clay, or peat in the local area.	- Unproductive	- Rocks or sediments that are too dense for water to easily flow (low permeability).
Bedrock:		Bedrock:	
- London Clay Formation	- Primarily consists of bioturbated or poorly laminated, silty to very silty clay, clayey silt, and occasionally silt, along with intermittent layers of sandy clay.	- Unproductive	- The bedrock may be composed of various types of rocks, such as shale, mudstone, clay, or less mineral-rich sedimentary or metamorphic rocks. Despite being considered unproductive in terms of mineral resources, this type of bedrock can still serve as an important water source. The bedrock may have sufficient porosity and permeability to store and transmit water.
Deep Aquifer		Deep Aquifer	
-Upper Chalk	- Moderately weak porous very fine-grained limestone - Contains bands of gravel and cobble-sized masses of hard flint	- Productive	- The deep aquifer is confined by the London Clay, and is located with the Chalk. It is classified as a major aquifer by the EA and constitutes the principal aquifer for the Thames region. It is defined as a highly permeable and supports large abstractions for public supply and other purposes.

The review of EA Magic hydrogeological mapping shows that the Site is situated in an area designated with unproductive groundwater vulnerability in most of the Site, except part of the western section, which is designated as Medium – High. It is noted that the relatively impermeable strata of London Clay and Lambeth Group clays act as an aquiclude (non-aquifer) which separates and impedes the groundwater flow between the shallow and deep aquifers.

3.1.2 Borehole Records

These records were extracted from a third-party investigation:

- gl – 0.5mbgl – Made Ground comprising soft/firm brown sandy clay with brick and gravel.



- Between 0.6-0.9mbgl - Langley Silt, various deposits formed by firm mix of yellow/brown/red silty and sandy clay.
- From 1.0-3.9mbgl – Lynch Hill Gravel Member, combination of gravel/well graded sand.
- Between 4.0-32.2mbgl – London Clay, upper part has an orange/brown colour, usually very firm dark fissured blue/brown/grey silty clay.
- From 32.3mbgl – Lambeth Group, combination of the following: upper mottled clay, laminated sands and clayey silts, lower Shelly clay, Lower Mottled clay, and pebbly beds and glauconitic sand containing some conglomerate and clay matrix.
- From 54.9mbgl – Upper Chalk, fine-grained limestone with a moderately weak porous texture.

3.1.3 Ground Stability

Review of third-party investigations shows that the ground stability of the Site does not pose a risk, as the analysed structure and mineralogy do not precede to any of the following:

- Deleterious soil
- Expansive soil
- Chemically active soil
- Potential for liquefaction

3.1.4 Radon

According to BGS mapping and the third-party Due Diligence Report, less than 1% of homes are above the Action Level and thus, the Site is in a low probability Radon Area.

3.1.5 Hydrology

Environmental records indicate that there are no surface water features within the site boundary. The Grand Union Canal borders the southern boundary of the wider Site.

According to the EA's Flood Map, the Site is designated flood zone 1. The Site has a 'low' risk of flooding, each year, this area has a chance of flooding lower than 1 in 1000 (0.1%).

3.1.6 Sensitive Land Uses

The Site is in an area that is a mixture of industrial, commercial, and residential in nature. The nearest sensitive human receptor immediately abuts the eastern boundary of the site (Olympia House and DX House).

There are three Sites of Special Scientific Interest (SSSI) within 5km from the Site: Black Park, found 4km northwest; Kingcup Meadows and Oldhouse Wood, positioned 4.5km north; Wraysbury Reservoir, located 4.7km to the south.

Burnham Beeches SSSI and NNR, is located 8.5km to the northwest. The South West London Waterbodies are classified as a Ramsar Site and Special Protection Area (SPA), they are located approximately 4.7km to the south and Windsor Forest and Great Par SAC 9.1 km south west. Sections of the Grand Union Canal, Slough Branch immediately adjacent to the southern boundary of the site boundary and a section near Iver plus an area of land near Iver station are designated a Biological Notification Sites (BNS) that lie within 2km of the installation.

3.1.7 Summary of Site sensitivity

The Site and surrounding areas are considered to be of moderate sensitivity, based on the following factors:

- The Site is situated in an area designated with both unproductive, and medium-high groundwater vulnerability. Therefore, any sources of pollution to ground may potentially impact the medium-high vulnerability groundwater and could use the permeable principal aquifer as a pathway to the base flow of



the local water courses. However, the relatively impermeable strata of London Clay and Lambeth Group clays separates and impedes the groundwater flow between the shallow and deep aquifers.

- Within 2km of Site, there are number of locally important ecological sites associated with the Grand Union Canal
- The South West London waterbodies are classified as a Ramsar Site and Special Protection Area (SPA), they are located approximately 4.7km to the south.

3.2 History of the Site and Surrounding Area

The history of development on the Site was investigated. The Site History is summarised below:

Timeframe	Site Description
2001-Present	Current Site layout is present in the maps from this period. The site remains as light industrial warehouses and offices as part of the Ridgeway Trading Estate
1973	The Site was further developed industrially, now including a cosmetics factory adjacent to the already existing glass factory. Additionally, some warehouses were also constructed. The Ridgeway road is present towards the east of the site
1960	Site plot was comprised of industrial buildings, specifically a glass factory and a cable works. The Ridgeway Road had been constructed.
1896-1932	The Grand Union Canal Slough Arm is present from 1896 with the remaining undeveloped. A wharf was built in the southeastern area of the Site tramways operated from the southeast to the northeast of the Site until 1932.

3.3 Previous Environmental Assessments, Investigations or Remediation

Separate rounds of investigations and remediation works are known to have occurred at the site variously between 1998 and 2021. These investigations have focused on the areas covered by the industrial units as shown in Figure 1 and are summarised for the area of the EPR installation as shown in Figure 3.

The investigations have targeted areas where a higher risk of contamination was present due to underground storage tanks (USTs) and above ground storage tanks (ASTs). These investigations provided adequate coverage across the site and, other than localised hydrocarbon contamination, did not indicate significant or widespread contamination. These investigations are summarised below:

An investigation and associated ground remediation strategy, covering Units 1A and 1G (former cable works and cosmetic factory), was completed in July 1998. Documentation from this works was submitted to the Environment Agency (EA). The works included the removal of impacted soils; decommissioning of above ground tanks; cleaning and decommissioning of interceptor pits; importation of clean inert topsoil for proposed landscaping areas; and water quality monitoring. A validation report was produced post remediation which showed there were no Total Petroleum Hydrocarbon (TPH) or phenol concentrations within the groundwater above the detection limits and the contamination risk to groundwater was low.

Two ground investigations in 2005 and 2006 of Unit 2A (former cable works buildings) focused on hydrocarbon contamination around the locations of three ASTs located towards the west of the building (since removed). Elevated TPH concentrations were detected within the soils. The report concluded that the ASTs did not present a risk to the Grand Union Canal (acknowledged by the EA).



Ground investigations in 1999 and 2000 of the area of three former oil ASTs located around Units 3 and 5 found evidence of hydrocarbon contamination within the groundwater and a former surface drainage run. A remediation strategy included the abstraction and treatment of localised hydrocarbon contaminated groundwater. A validation report was submitted which documented the completion of the remediation strategy, and this was approved by the EA.

Further Phase II information was obtained during a recent ground investigation undertaken at the site in 2021 Appendix 6 Report Concept Reference: 21/3593- FR01 dated 27/08/2021). The assessment of the potential risks from contamination at the site, primarily possible residual hydrocarbon contamination. The assessment was undertaken in accordance with the principles of the EA Land Contamination Risk Management (LCRM) guidance and BS 10175.

Soil samples were taken at intervals throughout the Made Ground and superficial deposits to provide a broad overview of chemical composition, as well as targeted sampling where evidence of contamination was noted. Two rounds of groundwater samples were recovered from the installed monitoring wells.

The ground investigation indicated that the Site was not significantly contaminated and there are unlikely to be constraints to future redevelopment. Only isolated residual soil hydrocarbon contamination was identified which indicates that the previous remediation works were undertaken to a sufficient standard. Whilst it is known the EA were consulted about the previous works it is not possible to confirm the extent of the remediation undertaken at the time. It has been reported by others that the EA no longer have records of the works or the correspondence.

4 Site Summary and Overview

4.1 Site Summary

The proposed installation sits within a wider development site in Iver residing approximately 500m west of the M25 motorway. The Grand Union Canal lies approximately 20m from the Site's South boundary.

External areas of the installation will be used for various activities including delivery, polishing and storage of fuel and testing, servicing and maintenance of 27 Emergency Stand-by Generators (ESGs). Key external areas, from a ground pollution risk perspective comprise the bulk fuel delivery, fuel polishing and storage and fuel conveying system to the belly tanks within in the ESG compound. All these areas discharge to foul sewer via sealed drain connected to a 3200 litre liquid capacity, 1000 litre sediment storage capacity Class 1 full retention interceptor.

4.2 Relevant Hazardous Substance Containment

The operations across the installation may be associated with the use and storage of relevant hazardous substances. Relevant hazardous substances are those substances or mixtures defined within Article 3 of Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) which, as a result of their hazardousness, mobility, persistence and biodegradability (as well as other characteristics), are capable of contaminating soil or groundwater and are used, produced and/or released by the installation. These substances were screened using the three-stage assessment outlined in the EC guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions. This assessment can be summarised as:

- Stage 1 – Identify all potentially hazardous substances on-site.
- Stage 2 – Screen out the relevant hazardous Substances.
- Stage 3 – Assessment of site-specific pollution possibility.

By volume the most abundant chemical within the installation is diesel / HVO. The bulk storage of hydrocarbons is associated mostly with the ESGs.



The sustainable by design approach provides a good framework for mitigating pollution to ground. Since multiple measures have been accounted for in the design phase such as:

- Spill trays and drip pans.
- Leak detection probes.
- Level sensors and multiple level alarms in the bulk tank to prevent overfilling.
- Bunded tanker unloading section.

The only relevant hazardous substances on installation are hydrocarbon lubricants, antifreeze, and diesel/HVO. Therefore, it was concluded that based on the design, planned site management and infrastructure, actual pollution risk is not posed by the storage of Relevant Hazardous Substances on Site.

4.3 Above Ground Storage Tanks (ASTs)

Fuel will be stored in a bulk top up fuel tank with a volume of 40,000 litres. This will be used to fill the 'belly tanks' of the main generators, each having a capacity of 16,000 litres in volume. All tanks will be above ground and double skinned. The main top-up tank will be contained within a bund with a capacity of 110% of the storage capacity. Each belly tank is containerised and self-bunded to contain 110% of the storage capacity of the tank. All tanks design standard and operation will comply with the Oil Storage Regulations (SI 2001/2954, The Control of Pollution (Oil Storage) (England) Regulations 2001). See Appendix 04 for Fuel Schematics.

4.4 Drainage

The installation is connected to a newly installed drainage system that will serve the wider site that is split into separate foul and surface water networks as shown within the surface and foul water drainage plans (Appendix 1).

Detailed schematics of the diesel storage and distribution design (Appendix 3) provide details of the containment of run-off from the installation including fuel delivery, fuel storage, fuel conveying system and fuel polishing systems. These assets and the generator yard will discharge from the installation to sewer via an oil interceptor (3200 litre liquid capacity, 1000 litre sediment storage capacity Class 1 full retention interceptor). The interceptor will be fitted with an automatic closure device which will activate on detection of fuel; this device will be activated by its integral detection mechanism. The system will also be fitted with a wired interface to the building's BMS. An audible alarm system for oil levels will be also installed which will connect to the data centre BMS. In the event of an unplanned release of fuel, the closure device will automatically isolate the interceptor preventing the discharge of fuel contaminated runoff to sewer and the alarm will notify key data centre staff of the issue, via the BMS.

The wider drainage system at the site will accept rainwater runoff from the building roof area and other hard surfaced areas of the installation and the overall site. This will pass through an interceptor to the attenuation pond which is designed with a hydrobrake and penstock to control the outfall release of surface water runoff to The Grand Union Canal.

Procedures will be developed and included within the site's Environmental Management System (EMS) for the management of surface water runoff and for the management and maintenance of the interceptor; relevant staff will be suitably trained in these procedures. All interceptors will be emptied at least annually and be subject to regular inspection and integrity testing.

4.5 Waste Storage

The only wastes applicable to this area will be generated by maintenance of the generators or replacement of parts. This will be removed by the maintenance contractor at the time of installation. Any other wastes such as oily rags/used spill equipment will be stored appropriately and removed as per regulations.



5 Soil and Groundwater Contamination Risk Assessment

5.1 Potential Current On-Site Sources of Contamination

On-Site activities will inevitably lead the presence of pollution sources that could, if ineffectively managed, impact ground, groundwater, controlled waters, and other potential pollution pathways and environmental receptors. The most significant risk on the proposed Site is associated with the filling/overfilling during delivery of diesel/HVO; as well as spills and leaks from, or catastrophic failure of, the bulk top up AST or ESG belly tanks used for the storage of diesel/HVO. A lesser, but relevant, risk to pathways and receptors is also posed by car parking spills in combination with failures in the drainage and interceptor system.

5.2 Potential Current Off-Site Sources of Contamination

The Site will be located in an industrial setting. There is, however, no evidence that any recent contamination from neighbouring premises has impacted the subject Site.

5.3 Potential Historical Sources of Contamination

The overall site is split over a number of industrial and light commercial units (Figure 1) that are currently occupied by a mix of logistics, vehicle maintenance and warehousing with external storage on areas of hard standing and soft landscaping to the peripheries of the units. The EPR installation boundary comprises units used mainly for warehousing and logistics however, part of the area (currently occupied by Units 1A and 1G) was previously used as a factory for at least 40 years before becoming a warehouse complex. Historic pollution from these activities and previous occupiers may have impacted ground over time and will be similar in nature to that recorded across the wider development area

5.4 Previous Reports

Previous ground investigations completed on site to date and are summarised within the 3rd party reports included within Appendix 6 which indicate that the installation and wider development site is not significantly contaminated. The latest investigation made by a third-party in 2021 provided a broad coverage of the wider site as well as investigating the potential presence of residual hydrocarbon contamination following the earlier remedial works within the area of the installation (between existing Units 3C and 1A). The investigation indicated that the presence of residual only hydrocarbon soil contamination suggesting that prior remediation efforts met acceptable standards. It is understood that the EA was consulted regarding these earlier actions and found the scope of the remediation work to be satisfactory at that time

5.5 Review of Site Sensitivity

The Site and surrounding areas are considered to be of moderate sensitivity, based on the following key factors:

- The Site is situated in an area of unproductive bedrock groundwater vulnerability. In most of the Site plot the superficial groundwater is unproductive, except part of the western section, which is designated as Medium – High for superficial groundwater vulnerability.
- While the deep aquifer is highly vulnerable, the bedrock clay forms a cap (aquiclude) severing the pathway for potential pollutants from the site.
- Within 2km of Site, there are number of locally important ecological sites associated with the Grand Union Canal
- The South West London waterbodies are classified as a Ramsar Site and Special Protection Area (SPA), they are located approximately 4.7km to the south.
- The nearest sensitive human receptor is approximately within 20m of the eastern boundary of the installation.



5.6 Assessment of Soil and Groundwater Contamination Risk

Based on the Site inspection and environmental setting of the Site, the sources of contamination on Site, as described in Sections 4 and 5.1, will be managed and contained in such a way as to reduce risk to ground and groundwater to Low.

The future risks of pollution will be mitigated appropriately by the planned active controls and preventive measures which include but are not limited to:

- The fuel bulk top up ASTs will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment. Carbon steel oil storage tanks. Specification); in accordance with this design standard each tank will be provided with secondary containment (110%).
- Fuel delivery tankers will be required to park in a dedicated tanker refuelling area.
- Tertiary containment will be provided by the contoured hardstanding of the area where the ESG, the receiver station and the fuel road tanker off-loading area will be located and the roadways kerbed.
- The ESG belly tanks will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment. Carbon steel oil storage tanks. Specification); in accordance with this design standard each tank will be provided with secondary containment (110%).
- The integrity of the fuel tanks and secondary containment will be subject to daily visual inspection by site personnel as part of daily operations. Any defects or weaknesses spotted in a tank or containment measures will be repaired as soon as practicable.
- Additional leak/spill protection measures will include tank level gauges, level alarms, pressure delivery over-fill prevention valves and leak detection alarms connected to the building management system (BMS), fuel pipelines will have a pipe-in-pipe arrangement to minimise the risk of leaks.
- Robust high-quality hardstanding in place in all external areas, hardstanding will be subject to regular visual inspection and appropriate maintenance.
- Both foul and surface water arising from the installation will pass through oil interceptors. Oil interceptors will be subject to routine visual servicing by specialist third parties.
- The interceptors will be fitted with an automatic closure device, this closure device will be activated on detection of oil in the interceptor.

6 Conceptual Site Model (CSM)

The CSM has been prepared based upon the desk-based assessment and walkover. The methodology of this risk assessment uses the source-pathway-receptor pollutant linkage to provide a qualitative appraisal of environmental risks and potential liabilities associated with soil and groundwater contamination at the Site.

The Conceptual Site Model (CSM) is prepared based on the current and continued use of the Site:

Source	Major Pathways	Receptor	Risk
On-Site Sources			
Spills from external deliveries; fugitive emissions from leaks or tank failure associated with the storage of diesel/HVO.	Leaching of contaminants and vertical migration into groundwater.	Superficial Aquifer – Partly Principal and Partly Unproductive	Low Deliveries occurring in specialised pollution control areas and subject to pollution mitigation procedures. Tanks constructed to BS799 standard.
		Bedrock Aquifer – Unproductive	Robust, inspected, and maintained engineered barrier to ground and groundwater (hardstanding). Further leak/spill protections integrated into the BMS. Rigorous inspection and maintenance regime incorporating all environmentally critical infrastructure (including below hardstanding drainage infrastructure). Emergency Response Procedures. The relatively impermeable strata of London Clay and Lambeth Group clays impede the groundwater flow between the shallow and deep aquifers.
Spills from external deliveries; fugitive emissions from leaks or tank failure associated with the storage of diesel/HVO.	Leaching of contaminants and vertical migration into groundwater.	Deep Aquifer – Productive	Emergency Response Procedures. The relatively impermeable strata of London Clay and Lambeth Group clays impede the groundwater flow between the shallow and deep aquifers.
		Overland run-off and drainage into surface water.	Low Deliveries occurring in specialised pollution control areas and subject to pollution mitigation procedures. Tanks constructed to BS799 standard. Tertiary containment by contouring and kerbing in diesel/HVO delivery and storage areas. Further leak/spill protections integrated into the BMS. Robust, inspected, and maintained engineered barrier to ground and groundwater (hardstanding). All drains protected by interceptors fitted with shut off valves.
Spills from external deliveries; fugitive emissions from leaks or tank failure associated with the storage of diesel/HVO.	Overland run-off and drainage into surface water.	Controlled waters – Grand Union Canal (via attenuation pond)	Tertiary containment by contouring and kerbing in diesel/HVO delivery and storage areas. Further leak/spill protections integrated into the BMS. Robust, inspected, and maintained engineered barrier to ground and groundwater (hardstanding). All drains protected by interceptors fitted with shut off valves.
		Controlled waters – Grand Union Canal (via attenuation pond)	Tertiary containment by contouring and kerbing in diesel/HVO delivery and storage areas. Further leak/spill protections integrated into the BMS. Robust, inspected, and maintained engineered barrier to ground and groundwater (hardstanding). All drains protected by interceptors fitted with shut off valves.



			Rigorous inspection and maintenance regime incorporating all environmentally critical infrastructure (including tanks and interceptors). Emergency Response Procedures. Visual inspection of attenuation pond.
		Flood water migration to controlled waters.	Low All controls above. Site is located within a Flood Zone 1, low risk of flooding. No potential for groundwater flooding.
Leaks from vehicle movements	Leaching of contaminants and vertical migration into groundwater.	Superficial Aquifer – Partly Principal and Partly Unproductive	Low Robust, inspected, and maintained engineered barrier to ground and groundwater (hardstanding).
		Bedrock Aquifer – Unproductive	Rigorous inspection and maintenance regime incorporating all environmentally critical infrastructure (including below hardstanding drainage infrastructure).
		Deep Aquifer – Productive	The relatively impermeable strata of London Clay and Lambeth Group clays impede the groundwater flow between the shallow and deep aquifers.
	Overland run-off and drainage into surface water.	Controlled waters – Grand Union Canal (via balancing pond)	Low Tertiary containment by contouring and kerbing in diesel/HVO delivery and storage areas. Robust, inspected, and maintained engineered barrier to ground and groundwater (hardstanding). All drains protected by interceptors fitted with shut off gates. Rigorous inspection and maintenance regime incorporating all environmentally critical infrastructure (including tanks and interceptors). Visual inspection of the attenuation pond.
		Flood water migration to controlled waters.	Low All controls above. Site is located within a Flood Zone 1, low risk of flooding. Low potential for groundwater flooding.



Off-Site Sources

Contamination from neighbouring industrial premises and historical contaminants.	Contractors and construction workers dermal contact and contamination	External environment leading to other listed sources	Low Risk pathway to be managed through good construction practices and use of PPE.
	Overland run-off	Controlled waters – Grand Union Canal	Low Adjacent neighbours pose negligible pollution risk. Previous investigations highlight isolated residual hydrocarbon pollution. Broad EA acceptance of previous remediation.
	Leaching of contaminants and vertical migration into groundwater	Controlled waters – Grand Union Canal	
		Superficial Aquifer – Partly Principal and Partly Unproductive	
		Bedrock Aquifer – Unproductive	



7 Conclusions and Further Recommendations

7.1 Conclusion of SCR

This assessment comprises a Site Condition Report (SCR) to support an Environmental Permit application for a proposed emergency back-up power generation facility at a data Centre development at Ridegway, Iver. The purpose of this report is, produce a SCR that is aligned to EA's H5 Guidance fulfils the obligations of the Industrial Emissions Directive.

The Site is deemed to be in an area of moderate environmental sensitivity. This sensitivity is considered as; the surrounding area is light mixed industrial, the site (due to distance) is highly unlikely to impact any statutory designated ecosystem, and the bedrock aquifer is of low sensitivity and caps the deeper vulnerable aquifer; however, the site is adjacent to a controlled water and part of the superficial aquifer is designated moderately - highly sensitive to pollution. The superficial aquifer is a potential pathway to the base flows of watercourses.

On-Site activities will inevitably lead the presence of pollution sources that could, if ineffectively managed, impact ground, groundwater, controlled waters, and other potential pollution pathways and environmental receptors. The most significant risk on the proposed Site is associated with the filling/overfilling during delivery of diesel/HVO; as well as spills and leaks from, or catastrophic failure of, the bulk top up AST or ESG belly tanks used for the storage of diesel/HVO. A lesser, but relevant, risk to pathways and receptors is also posed by vehicle spills in combination with failures in the drainage and interceptor system.

The future risks of pollution will be mitigated appropriately by the planned active controls and preventive measures which include but are not limited to:

- The fuel bulk top up ASTs will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment. Carbon steel oil storage tanks. Specification); in accordance with this design standard each tank will be provided with secondary containment (110%).
- Fuel delivery tankers will be required to park in a dedicated tanker refuelling area.
- Tertiary containment will be provided by the contoured hardstanding of the area where the ESG, the receiver station and the fuel road tanker off-loading area will be located and the roadways kerbed.
- The ESG belly tanks will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment. Carbon steel oil storage tanks. Specification); in accordance with this design standard each tank will be provided with secondary containment (110%).
- The integrity of the fuel tanks and secondary containment will be subject to daily visual inspection by site personnel as part of daily operations. Any defects or weaknesses spotted in a tank or containment measures will be repaired as soon as practicable.
- Additional leak/spill protection measures will include tank level gauges, level alarms, pressure delivery over-fill prevention valves and leak detection alarms connected to the building management system (BMS), fuel pipelines will have a pipe-in-pipe arrangement to minimise the risk of leaks.
- Robust high-quality hardstanding in place in all external areas, hardstanding will be subject to regular visual inspection and appropriate maintenance.
- Both foul and surface water arising from the installation will pass through oil interceptors. Oil interceptors will be subject to routine visual servicing by specialist third parties.
- The interceptors will be fitted with an automatic closure device, this closure device will be activated on detection of oil in the interceptor.

As outlined in the Conceptual Site Model described in Section 6, the risk posed to environmental receptors from all pollution sources identified on the proposed Site is considered to be low.



8 APPENDICES

Appendix 01: Site Drawings:

- i. Environmental Permit Installation Boundary
- ii. Air Emissions Point Schematic
- iii. Site Drainage Plan – Surface Water (Drawing Ref CSC-00-XX-DR-C-1100)
- iv. Site Drainage Plan – Foul Water (Drawing Ref CSC-00-XX-DR-C-1200)

Appendix 02: Engine Manufacturer Example Specifications (MTU engines)

Appendix 03: Fuel Schematic

- i. Diesel Fuel Tank and Pipeline Specification
- ii. Fuel Storage Schematic (Drawing Ref ETH-01-XX-DR-M-1031)
- iii. Fuel Distribution Schematic (Drawing Ref ETH-01-XX-DR-M-1030)

Appendix 04: Appendix 4 Air Quality Assessment 6973r2 May 2026

Appendix 5 The Ridgeway DC - Iver - Env Permit Noise Report - June 2026

Appendix 06: 3rd Party Site Reports

- i. Phase I Desktop Reports Argyll Site Solutions Combined Search & TerraSearch Ground Report
- ii. Ground Investigation Reporting 2021
- iii. Phase II Investigation Reports Concept: 21/3593- FR01 27/08/2021